

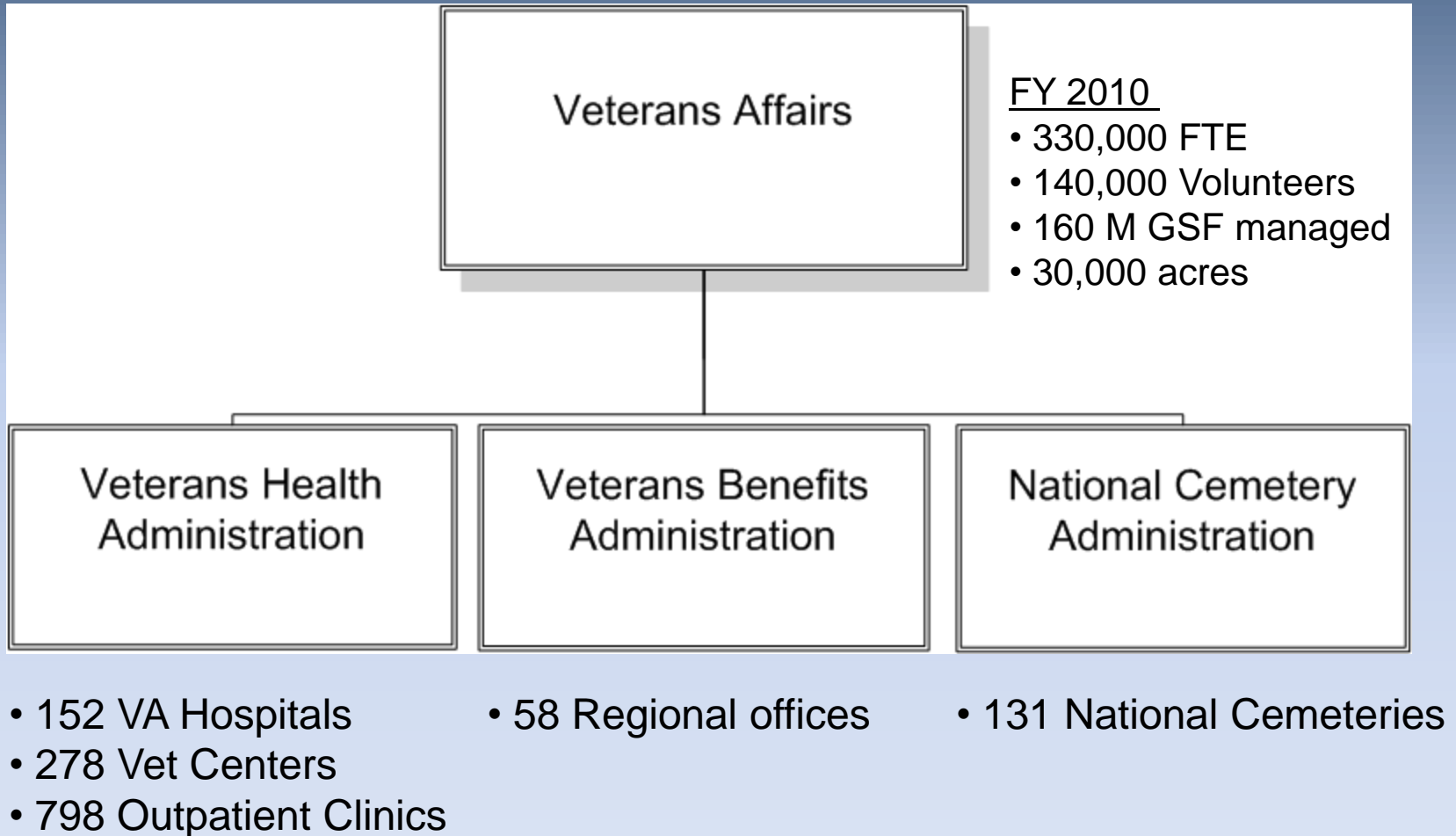


Department of Veterans Affairs

Climate change and health- Agency vulnerabilities and actions

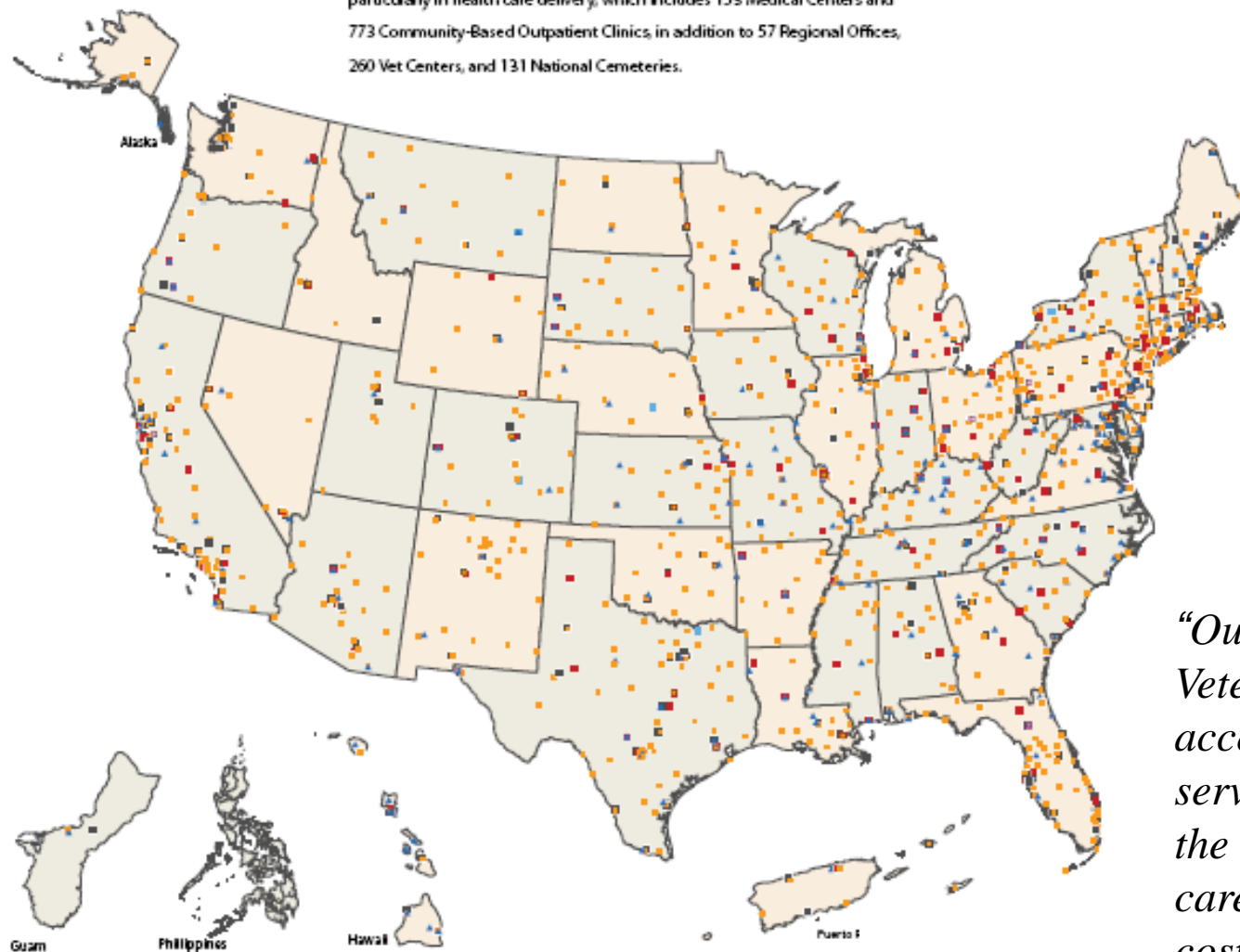
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Department of Veterans Affairs



DEPARTMENT OF VETERANS AFFAIRS FACILITIES

The map below shows the breadth of VA facilities spanning the United States, as well as the U.S. territories and the Philippines. VA has an extensive field structure, particularly in health care delivery, which includes 153 Medical Centers and 773 Community-Based Outpatient Clinics, in addition to 57 Regional Offices, 260 Vet Centers, and 131 National Cemeteries.



VA Facilities (FY 2010 2nd Quarter)

- VA Medical Center
- Vet Center
- Community-Based Outpatient Clinic
- VA Community Living Center
- Independent Outpatient Clinic
- Residential Rehabilitation Center
- Regional Office
- ▲ National and State Cemeteries

“Our mission at VA is to serve Veterans by increasing their access to our benefits and services, to provide them with the highest quality of health care available, and to control costs to the best of our abilities.”

DVA Vulnerabilities & Challenges

DVA Strategic Plan Refresh 2011 – 2015

“Establish enterprise energy cost reduction and implement VA-wide greenhouse gas initiative to address VA’s carbon footprint- Greening VA”
(Integrated objective 3. “Build our internal capacity to serve Veterans, their families, our employees, and other stakeholders efficiently and effectively.”)

Challenges:

- Hospital energy requirements
 - Indoor air quality, technology
- Water requirements
 - Hand hygiene, disinfection/sterilization, laundry
 - Cemetery grounds maintenance
- Changes in disease patterns
- Expanding mission
 - Outreach into Veterans homes

Greening VA

Intended outcomes:

- Restoration and improved quality of life through improved quality of the environment.
- Smooth transition to civilian life as projects for energy, water and environment improvements at VA facilities are often good opportunities for Veterans.
- Contributing to the Nation's well-being by reducing environmental and energy impacts.
- As climate change may act as an accelerant of instability or conflict, VA hopes to help reduce such negative impact through sustainable practices .

DVA Vulnerabilities & Challenges

Performance Measures and Strategic Targets:

- Achieve a 30% reduction scope 1 & 2 GHG emissions by FY 2020
- Achieve a 10% reduction scope 3 GHG emissions by FY 2020
- VA projects it will achieve a 26% reduction in scope 1&2 GHG emissions by FY 2015 through the following strategies:
 - Building retro-commissioning
 - Alternative fueling station development & implementation
 - On site generation of renewable energy
 - Increased use of renewable fuel for heat/power cogeneration systems
 - Replacing old equipment with energy efficient models

Green House Gases (GHG): Scope 1- direct emissions

Scope 2 – indirect emissions related to the purchase and consumption of electricity/steam/heat

Scope 3 – emissions related to employee travel and electricity transmission/distribution losses

DVA Vulnerabilities & Challenges

Water:

- Health care systems
 - Heavily water dependant
 - Unable to use reclaimed water in medical settings
- Cemeteries
 - Maintenance proper to memorialize and respect Veterans

Actions:

- Implementing water conservation measures and best water management practices to reduce non-healthcare water use.
- Installing water efficient sterilization systems.
- Implementing water reduction strategies in laundry and other non-medical areas
- Increasing xeriscaping.
- Using “smart” irrigation controllers.

DVA Energy/Green Management Program

DVA Office of Asset Enterprise Management

- Addresses sustainable challenges in an integrated fashion at the Department level
- Sets policy, performs oversight and reporting, and coordinates task forces and initiatives to help ensure that VA meets mandates and internal goals
- Department-level real property and asset management policy and program responsibilities

DVA Energy/Green Management Program

Energy Management

- Investments in energy efficiency and renewable energy • Commodity purchasing • Operations and maintenance

Environmental Management

- Green purchasing • Electronics stewardship • Recycling and waste prevention • Chemicals management • Environmental management systems • Compliance • GHG emissions

Transportation (Vehicle Fleet) Management

- Vehicle acquisition and disposal • Utilization and maintenance • Fueling/alternative fuels

Sustainable (Green) Building

- New construction , major renovation, minor projects: Design standards • Project planning • Project execution
- Existing buildings: Assessments • Standards and guidance • Certification

Cross-Cutting

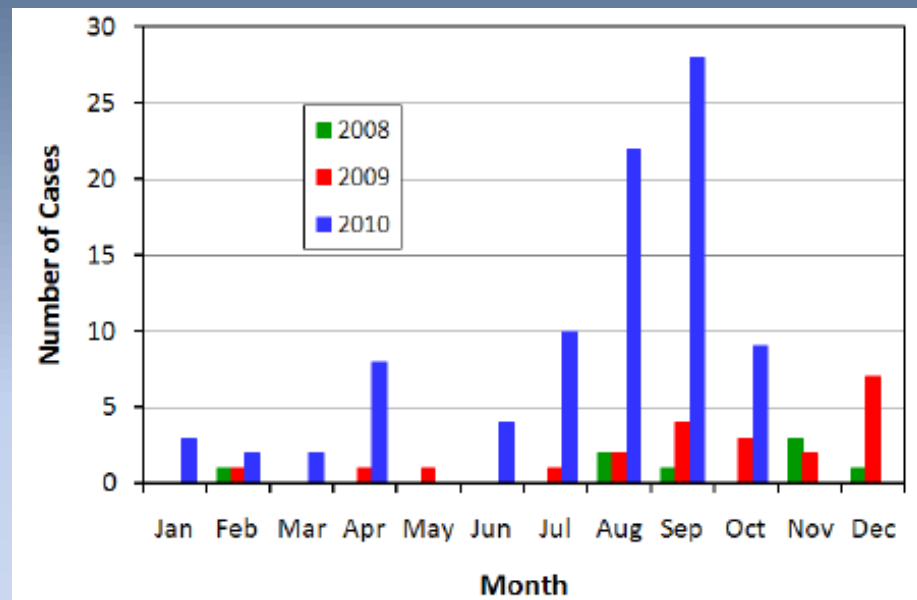
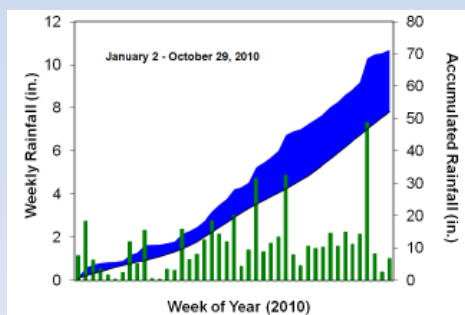
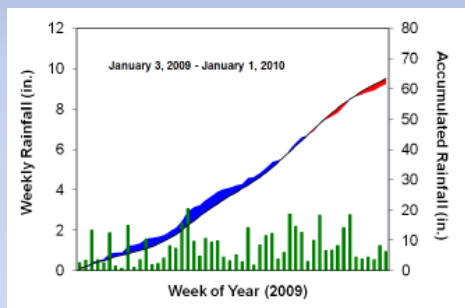
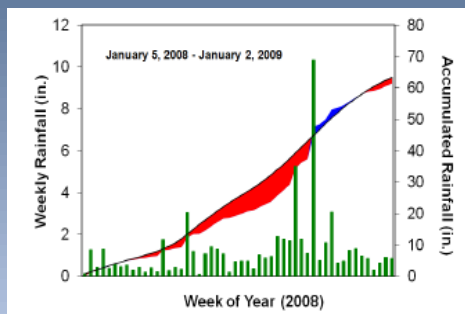
- Education, training, and awareness
- Data collection, analysis and reporting

Preparation and mitigation of health impacts of climate change

Climate and Health Challenges

- Temperature extremes
 - Heat, cold related conditions
- Floods, hurricanes, tornados
- Allergen production
- Vector-borne diseases
 - Rainfall
 - Climate changes affecting the range/population of the vector

Surveillance - Dengue

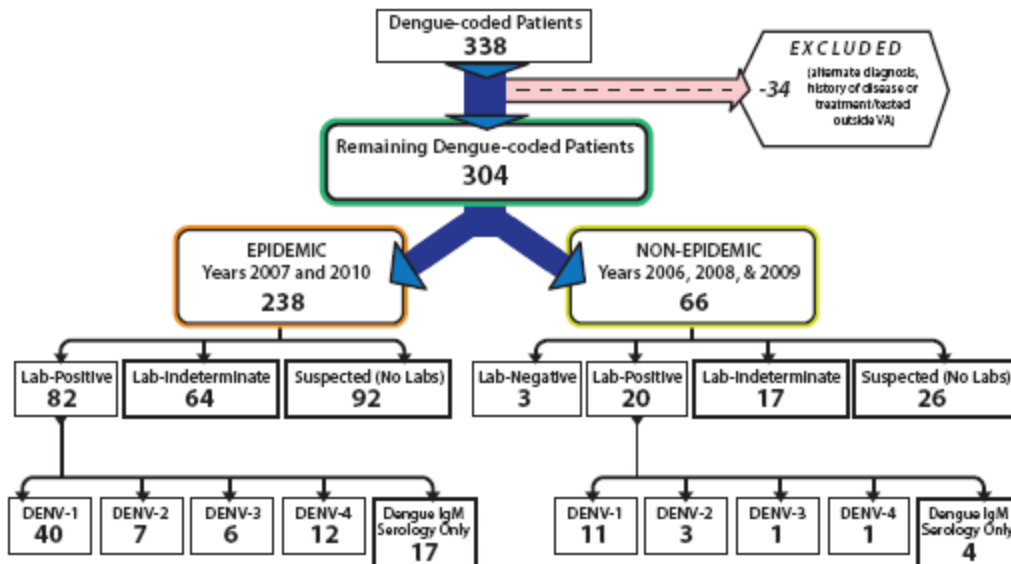


- Pilot project combining VA and NOAA data
 - VA electronic health records, ICD-9
 - NOAA rainfall records, 60 stations
- Possible role for predicting future disease impact

Surveillance - Dengue

- *Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE)* used to identify VA patients with Dengue
- Compared dengue patient characteristics and strains between epidemic and non-epidemic years

Figure 1. Flow Diagram of VA Puerto Rico Dengue Cases, 2006-2010



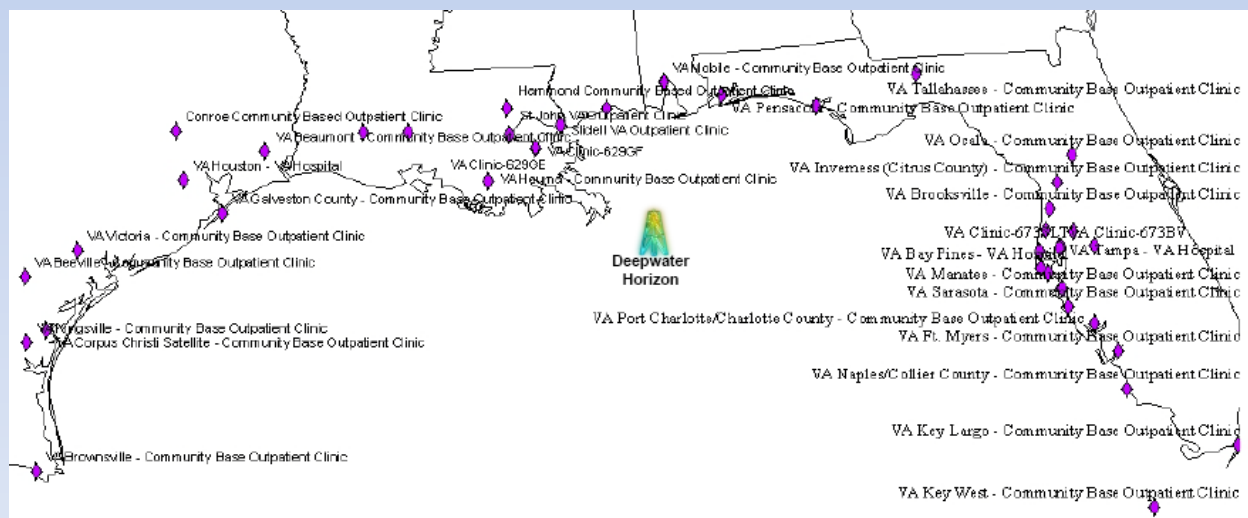
Patient Characteristics	Epidemic Years, N = 238	Non-Epidemic Years, N=66	P
Median Age	56 years (24 - 90)	-	-
Male	224 (94%)	63 (95%)	0.48
Any Dengue Testing	146 (61%)	40 (61%)	0.91
Hospitalization	137 (58%)	34 (52%)	0.38
Required ICU Care	7 (3%)	2 (3%)	0.62
Required Platelet Transfusion	8 (3%)	2 (3%)	0.63
Fever	231/235 (98%)	64/66 (97%)	0.39
Arthralgias/Myalgias	200/217 (92%)	52/57 (91%)	0.5
Thrombocytopenia (Platelets $\leq 150K$)	214/238 (90%)	61/65 (94%)	0.33
Headache	160/191 (84%)	45/53 (85%)	0.84
Leucopenia (WBC $< 5 K/cmm$)	188/238 (79%)	52/65 (80%)	0.86
Any GI symptom(s)	172/219 (79%)	44/58 (76%)	0.66
Eye pain	87/137 (64%)	18/27 (67%)	0.76
Skin manifestations /Rash	79/185 (43%)	16/34 (47%)	0.64
Any URI symptom(s)	83/187 (44%)	20/46 (43%)	0.91
Any Bleeding	22/198 (11%)	3/30 (10%)	0.58

Syndromic Surveillance – Gulf Oil Spill, 2010

Goal: To identify the impact of the oil spill on Veterans health to aid in directing response resources

Methods: ESSENCE used to identify potentially related medical conditions

- Incidence of conditions compared with seasonally adjusted baseline generated by the analysis of baseline data, 2007 – 2009.



- 43 VA health care facilities in the Gulf region

- 2.4 M outpatient visits between 18 Apr and 30 Oct, 2010

Syndromic Surveillance – Gulf Oil Spill, 2010

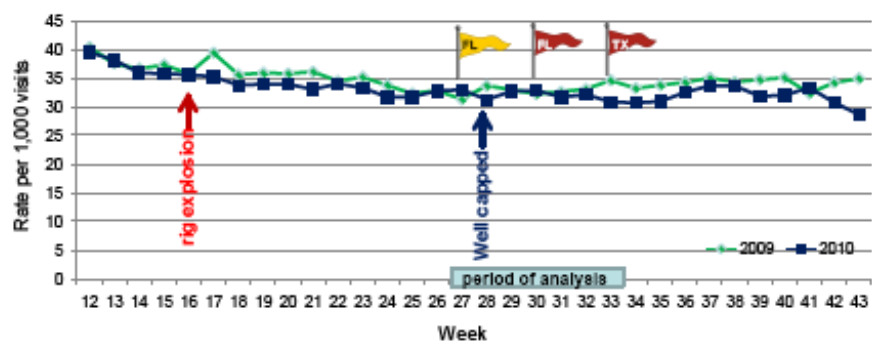


Figure 2. Rate of diagnosis of respiratory conditions- (excluding asthma)

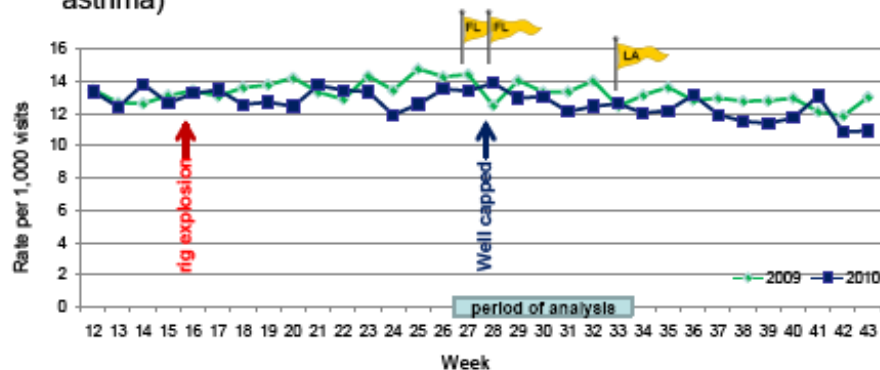


Figure 4. Rate of diagnosis of gastrointestinal related conditions

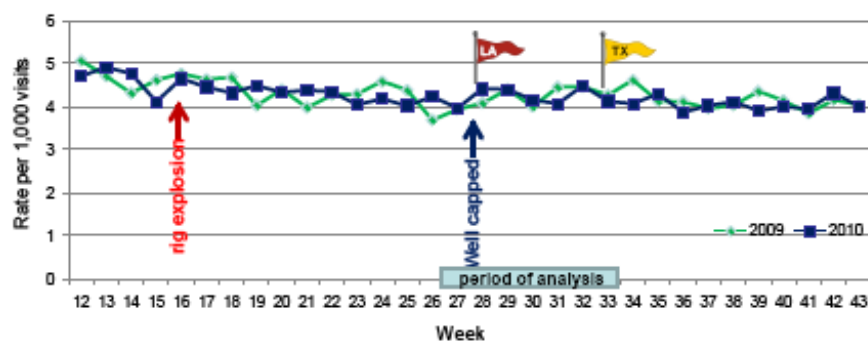


Figure 3. Rate of diagnosis of asthma related conditions

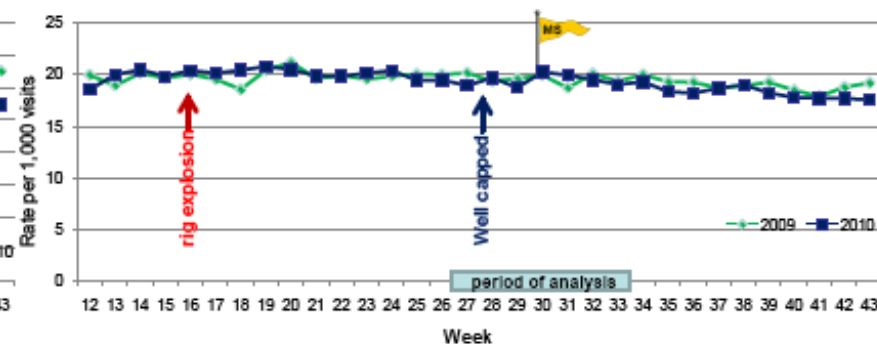


Figure 5. Rate of diagnosis of environmental exposure related conditions

VHA National Center for Occupational Health and Infection Control (COHIC)

HVAC-Energy Programs

- Assessing the annual expenses for heating, ventilating and air conditioning VA Medical Center space.
- Aim to understand where opportunities exist for energy conservation

Climate and Respiratory Disease

- Review national ICD-9 data for influenza-like illness
- Overlay outdoor climate conditions on geographical occurrence of influenza-like illness
- Study geographic and climate patterns of disease incidence

Conclusions

- DVA is making substantial improvements in infrastructure and processes to minimize its environmental impact.
 - Health care
 - Cemeteries
- DVA recognizes the potential impact on health due to a changing climate
 - Emergency preparedness
 - Surveillance for vector borne diseases
 - Capacity for rapid response augmented by syndromic surveillance